Practice: 340 - Cover Crop

Scenario: #1 - Single Species

Scenario Description:

Establish a small grain, grass, or brassica (including forage sorghum, radishes, turnips, buckwheat, etc) cover crop by broadcasting, no-till drill, or other approved methods. Cover crop is established during spring, summer,or fall and terminated according to state specifications. Termination can be either mechanical or chemical.

Before Situation:

Row crops such as corn, vegetables or tobacco are harvested resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Residual soil nitrogen is lost through leaching, and phosphorus is tranported to nearby surface water resulting in decreased soil and water quality. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation:

Cover crop is seeded after row crop harvest and soil is covered. Erosion from wind and water is minimized. Residual nitrogen is captured by the cover crop, phosphorus transport is reduced, and water quality is improved. Soil health (including organic matter) is improved. Cover crop is terminated according to state specifications. Termination can be either mechanical or chemical.

Scenario Feature Measure: Acres of cover crop

Scenario Unit: Acre

Scenario Typical Size: 20

Scenario Cost: $1,663.00 **Scenario Cost/Unit:** $83.15

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Primary	946	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.56	20	$311.20
Mechanical weed control, Vegetation termination	957	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$19.25	20	$385.00
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	$11.79	20	$235.80
Materials						
One Species, Cool Season, Annual Grass or Legume	2311	Cool season annual grass or legume. Includes material and shipping only.	Acre	$36.55	20	$731.00

Practice: 340 - Cover Crop

Scenario: #2 - Single Species Organic

Scenario Description:

Establish a certified organic small grain, grass, or brassica (including forage sorghum, radishes, turnips, buckwheat, etc) cover crop on organic or transitionning to organic land by broadcasting, no-till drill, or other approved methods. Cover crop is established during spring, summer,or fall and terminated according to state specifications. Must use certified organic seed.

Before Situation:

Row crops such as corn, vegetables or tobacco are harvested from organic or transitioning to organic land resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Residual soil nitrogen is lost through leaching, and phosphorus is tranported to nearby surface water resulting in decreased soil and water quality. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation:

Certified organic cover crop is seeded after row crop harvest and soil is covered. Erosion from wind and water is minimized. Residual nitrogen is captured by the cover crop, phosphorus transport is reduced, and water quality is improved. Soil health (including organic matter) is improved. Cover crop is terminated according to state specifications.

Scenario Feature Measure: Acres of cover crop

Scenario Unit: Acre

Scenario Typical Size: 20

Scenario Cost: $2,077.00 **Scenario Cost/Unit:** $103.85

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Primary	946	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.56	20	$311.20
Mechanical weed control, Vegetation termination	957	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$19.25	20	$385.00
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	$11.79	20	$235.80
Materials						
Certified Organic, One Species, Cool Season, Annual grass	2338	Certified organic cool season annual grass. Includes material and shipping only.	Acre	$57.25	20	$1,145.00

Practice: 340 - Cover Crop

Scenario: #3 - Legume - Soil Health

Scenario Description:

Establish a pure legume cover crop or a multi-species soil health mix (typically a legume with 2-4 other small grain, grass or legume species) by broadcasting, no-till drill, or other approved methods. The scenario is typically used to improve soil organic matter, nitrogen, microbial populations and overall soil health. Cover crop is established during spring, summer,or fall and terminated according to state specifications. Termination can be either mechanical or chemical.

Before Situation:

Row crops such as corn, vegetables or tobacco are harvested resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Residual soil nitrogen is lost through leaching, and phosphorus is tranported to nearby surface water resulting in decreased soil and water quality. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation:

Legume cover crop or multi-species soil health mix is seeded after row crop harvest and soil is covered. Erosion from wind and water is minimized. Residual nitrogen is captured by the cover crop, phosphorus transport is reduced, and water quality is improved. Soil health (including organic matter), soil structure, and microbial diversity is improved. Cover crop is terminated according to state specifications. Termination can be either mechanical or chemical.

Scenario Feature Measure: Acres of cover crop

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $1,034.70 **Scenario Cost/Unit:** $103.47

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	$11.79	10	$117.90
Mechanical weed control, Vegetation termination	957	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$19.25	10	$192.50
Tillage, Primary	946	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.56	10	$155.60
Materials						
Three Species Mix, Warm Season, Annual Grasses and Legumes	2326	Warm season annual grass and legume mix. Includes material and shipping only.	Acre	$56.87	10	$568.70

Practice: 340 - Cover Crop

Scenario: #4 - Organic Legume - Soil Health

Scenario Description:

Establish a certified organic, pure legume cover crop or a multi-species soil health mix (typically a legume with 2-4 other small grain, grass or legume species) on organic or transitioning to organic land by broadcasting, no-till drill, or other approved methods. The scenario is typically used to improve soil organic matter, nitrogen, microbial populations and overall soil health. Cover crop is established during spring, summer,or fall and terminated according to state specifications. Must use certified organic seed.

Before Situation:

Row crops such as corn, vegetables or tobacco are harvested from organic or transitioning to organic land resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Residual soil nitrogen is lost through leaching, and phosphorus is tranported to nearby surface water resulting in decreased soil and water quality. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation:

Certified organic legume cover crop or multi-species soil health mix is seeded after row crop harvest and soil is covered. Erosion from wind and water is minimized. Residual nitrogen is captured by the cover crop, phosphorus transport is reduced, and water quality is improved. Soil health (including organic matter), soil structure, and microbial diversity is improved. Cover crop is terminated according to state specifications.

Scenario Feature Measure: Acres of cover crop

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $1,240.00 **Scenario Cost/Unit:** $124.00

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Primary	946	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.56	10	$155.60
Mechanical weed control, Vegetation termination	957	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$19.25	10	$192.50
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	$11.79	10	$117.90
Materials						
Certified Organic, Three plus Species Mix, Cool Season, Annual Grasses and Legumes	2343	Certified organic cool season annual grass and legume mix. Includes material and shipping only.	Acre	$77.40	10	$774.00

Practice: 340 - Cover Crop

Scenario: #5 - Interseed

Scenario Description:

Used to interseed, undersow, or overseed a cover crop into an existing crop. Can also be used as nurse crop or for other state approved purposes. Typically used to seed clover into a row crop, vegetables, or an orchard or vineyard alley, but can be used for a variety of cover crops and situations. Follow state specifications for interseeding crops, rates, and dates. Assumes seed and seeding costs only, and does not include termination costs. Assumes cover crop is terminated by already planned operations such as spring tillage, mowing alleys, grazing etc...

Before Situation:

Cash crops have been planted but are not harvested. There is bare soil between the rows and intense rainfall during the fall, winter, and early spring will cause erosion after the cash crop is harvested. Residual soil nitrogen will be lost through leaching, and phosphorus will be tranported to nearby surface water resulting in decreased soil and water quality. Soil health (soil organic matter) is declining over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation:

Approved cover crops are seeded into standing cash crop and soil is covered. Erosion from wind and water is minimized. Residual nitrogen is captured by the cover crop, phosphorus transport is reduced, and water quality is improved. Soil health (including organic matter), soil structure, and microbial diversity is improved. Energy is saved through the use of legume nitrogen versus Haber-Bosch nitrogen.

Scenario Feature Measure: Acres of cover crop

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $483.40 **Scenario Cost/Unit:** $48.34

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	$11.79	10	$117.90
Materials						
One Species, Cool Season, Annual Grass or Legume	2311	Cool season annual grass or legume. Includes material and shipping only.	Acre	$36.55	10	$365.50

Practice: 340 - Cover Crop

Scenario: #6 - Soil Health 5 species

Scenario Description:

Establish a multi-species soil health mix (typically a legume with 2-4 other small grain, grass or legume species) by broadcasting, no-till drill, or other approved methods. The scenario is typically used to improve soil organic matter, nitrogen, microbial populations and overall soil health. Cover crop is established during spring, summer,or fall and terminated according to state specifications. Termination can be either mechanical or chemical.

Before Situation:

Row crops such as corn, vegetables or tobacco are harvested resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Residual soil nitrogen is lost through leaching, and phosphorus is tranported to nearby surface water resulting in decreased soil and water quality. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation:

Multi-species soil health mix is seeded after row crop harvest and soil is covered. Erosion from wind and water is minimized. Residual nitrogen is captured by the cover crop, phosphorus transport is reduced, and water quality is improved. Soil health (including organic matter), soil structure, and microbial diversity is improved. Cover crop is terminated according to state specifications. Termination can be either mechanical or chemical.

Scenario Feature Measure: Acres of cover crop

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: $933.80 **Scenario Cost/Unit:** $93.38

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	$11.79	10	$117.90
Tillage, Primary	946	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$15.56	10	$155.60
Mechanical weed control, Vegetation termination	957	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$19.25	10	$192.50
Materials						
Five species Mix, Warm Season, Annual Grass/Legume/Forb	2328	Native, warm season annual grass, legume, and forb mix. Includes material and shipping only.	Acre	$46.78	10	$467.80